

Discussion about Location of Pair Monitor and Proposal from Belle Group

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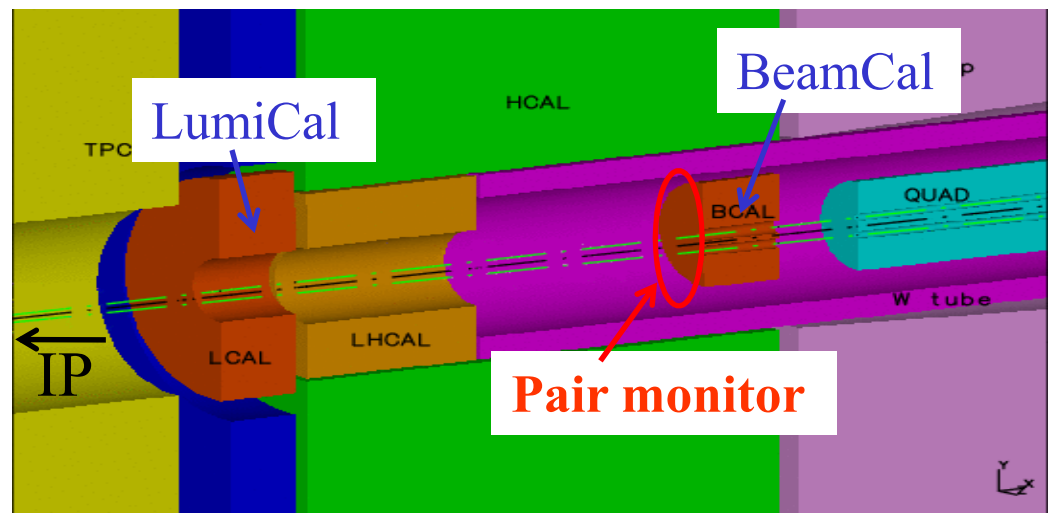
Location of Pair Monitor

Pair monitor in the forward region

Pair monitor at forward region

- Graphite layer is located just before BeamCal in the current FCAL design.
 - Thickness : ~10cm
- Pair monitor may be located in front of the Graphite layer.
 - The performance study was started at the location.
- The mechanical design should be studied.

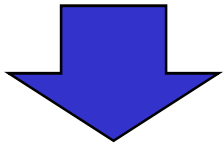
Is this location reasonable?
or, do you have other idea?



Proposal from Super-Belle Group

Proposal from Belle group

- I was invited to talk about ILC forward detectors at the super-Belle workshop.
 - BNM2008 : <http://superb.kek.jp/bnm2008/index.html>
- The forward detectors will be installed at the super-Belle.
 - Target mode : $B \rightarrow K^{(*)} \nu\nu$
- The construction of the super-Belle will be in 2012.
 - However, they have no active person to work for the forward region.



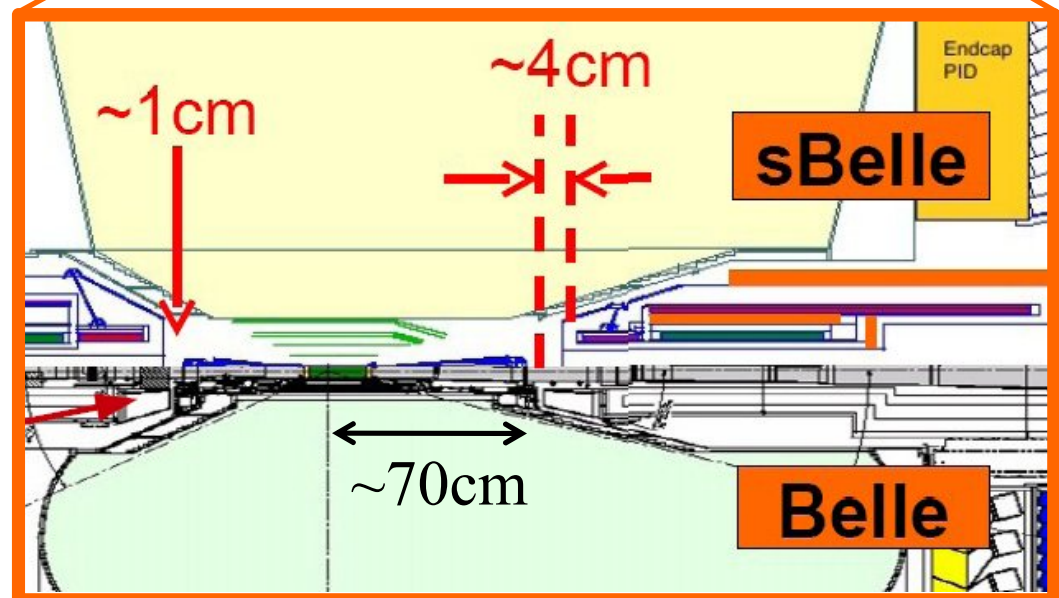
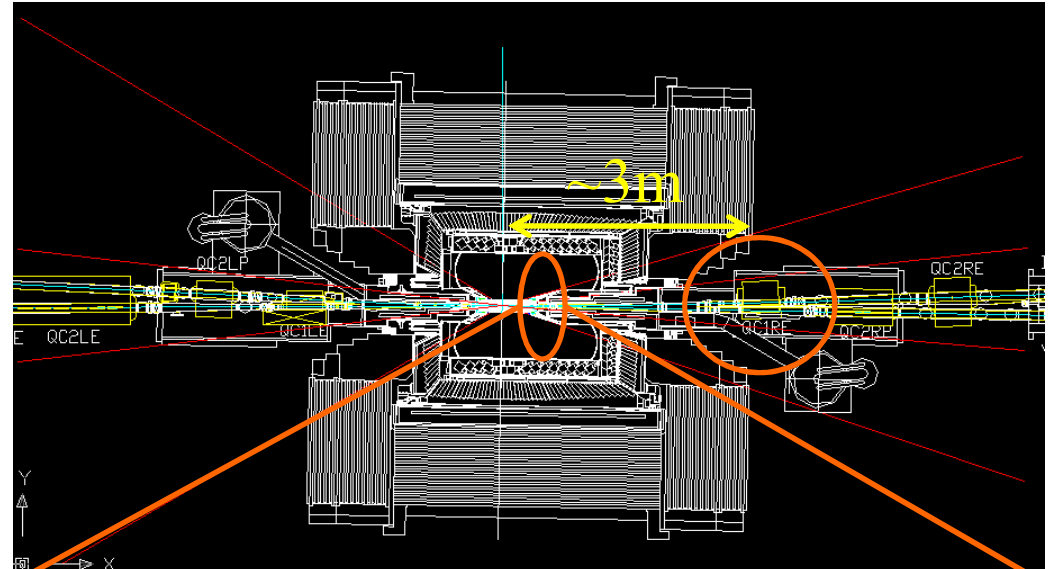
Proposal from Belle group

How about installing the ILC forward detectors
as the pre-test for ILC?

(..., because it is better than no detector)

Very forward region at super-Belle

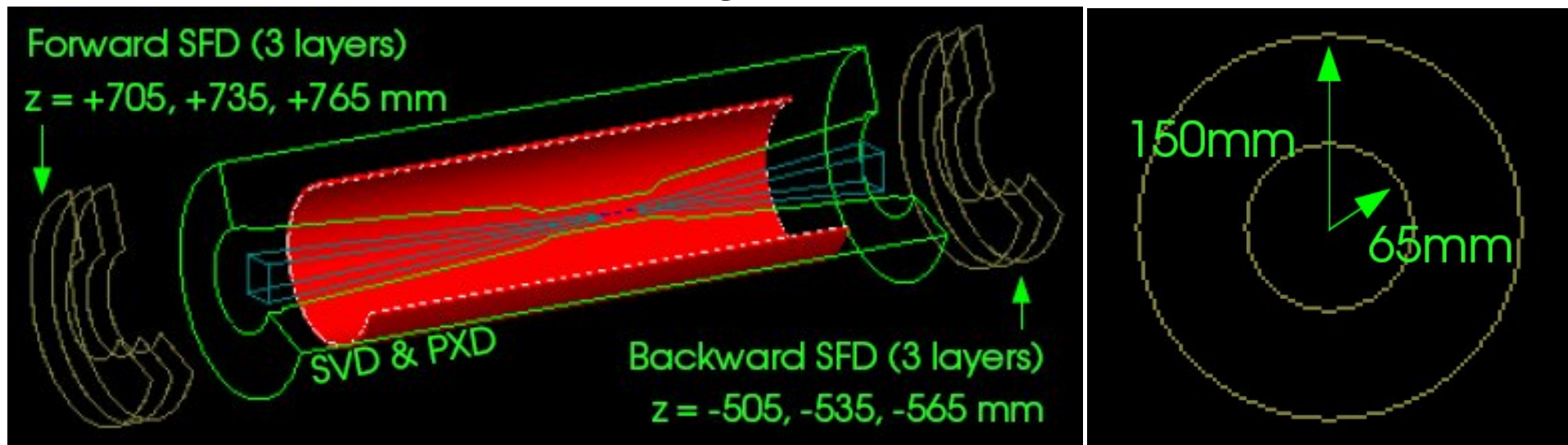
- There are two options to locate the forward detectors.
 - 4cm-region in the ion yoke
 - Anywhere outside the ion yoke
- Radius of beam pipe : 1cm



Simulation example

There is a few simulation studies.

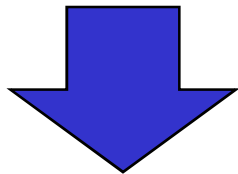
- The silicon detector with 3 layer are assumed.
 - Inner radius : 65 mm
 - Outer radius : 150 mm
- The angular coverage:
 - Forward : 5.3~11.1 deg.
 - Backward : 7.3~14.9 deg.



Requirement to the forward detectors

Requirement at super-Belle

- Tracking ability is necessary to identify the extra-tracks from B.G..
 - It dose not have to be calorimeter.
- The detector should be very thin, if we install them in the 4cm-region.
- Of course, the detectors must work with the beam cycle at super-Belle.
 - 10^8 bunches/s



Silicon sensors for Lumi-Cal, Beam-Cal(?), and pair monitor might be used for the forward detector at super-Belle.

- The readout system (readout ASIC, etc.) will be different from ILC.

Unknown items

- What is the event rate?
 - No simulation result exists.
- How much is the radiation dose at the forward region?
 - Belle people dose not estimate the radiation yet.
- Who dose money offere?
 - Belle prepares the money, or we should?

Merit v.s. De-merit

We will have merit and de-merit to participate in the super-Belle.

Merit

- R&D, especially for the sensor will progress dramatically.
- Belle people will become familiar with ILC, and they may join our activity.
- We may request money as associated study with Belle.
- The super-Belle can be used as the beam test for ILC forward detectors.

De-merit

- The schedule is very tight.
- Specific study for ILC might be delayed due to the hard work for super-Belle.

How do you think their proposal?